

- 17 -

WHAT IS CLAIMED IS:

1. A computerized method for generating mapping coordinates for a set of objects, wherein two or more objects are related by associated pairwise relationships, the method comprising the steps of:

- (1) specifying a set of bounds for one or more associated relationships;
- (2) assigning initial coordinates to the objects on the map;
- (3) selecting a pair of objects;
- (4) computing a distance d between said selected objects on the map;
- (5) comparing said distance d between said selected objects on the map to the bounds of their associated relationship r ;
- (6) adjusting the coordinates of said selected objects on the map so that said distance d of said selected objects on the map falls closer within said bounds of said corresponding relationship r , if said distance d between said selected objects on the map falls outside said bounds of said corresponding relationship r ;
- (7) repeating steps (3) through (6) for additional pairs of objects; and
- (8) outputting the coordinates of one or more objects on the map.

2. The method according to claim 1, wherein step (1) comprises the steps of:

- (a) identifying a neighborhood radius r_c ;
- (b) selecting a pair of objects;
- (c) comparing the relationship r of said selected objects to said neighborhood radius r_c ;
- (d) if said relationship r of said selected objects is less than or equal to said neighborhood radius r_c , assigning a lower bound and an upper bound of said relationship r

- 18 -

- of said selected objects equal to said neighborhood radius r_c ;
- (e) if said relationship r of said selected objects is greater than said neighborhood radius r_c , defining a lower bound of said relationship r of said selected objects equal to said neighborhood radius r_c , and an upper bound of said relationship r of said selected objects equal to infinity; and
 - (f) repeating steps (a) through (e) for additional pairs of objects.

3. The method according to claim 1, wherein a pairwise relationship between two objects represents a similarity/dissimilarity between said objects.

4. The method according to claim 1, wherein a pairwise relationship between two objects represents a distance between said objects.

5. The method according to claim 1, wherein step (6) comprises the step of: adjusting the coordinates of said selected objects on the map by a correction factor so that said distance d of said selected objects on the map falls closer within said bounds of said corresponding relationship r , if said distance d between said selected objects on the map falls outside said bounds of said corresponding relationship r .

6. The method according to claim 5, further comprising the steps of repeating steps (3) through (7) for several correction factors.

7. The method according to claim 6, wherein the value of the correction factor is reduced after each repetition of steps (3) through (7).

- 19 -

8. The method according to claim 2, wherein steps (1) through (7) are repeated for several neighborhood radii r_c .